



Ontrack® Eraser User Guide

Version 4.0



An Altegrity Company

Notice to Users

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This manual should not be construed as any representation or warranty with respect to the software named herein. Occasionally, changes or variations exist in the software that are not reflected in the manual.

Generally, if such changes or variations are known to exist and affect the product significantly, a release note or ReadMe file will accompany the User Guide, or will be available on the Kroll Ontrack web site. In that event, please read the release notes or ReadMe file before using the product.

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Introduction

Overview

Ontrack Eraser Software 4.00 is an application that runs on both Microsoft® Windows® and Linux® platforms. The main purpose of the application for Linux is to securely erase hard drives and other storage units. The application for Windows erases non-direct attached devices such as USB and FireWire®. After the erasure is complete, an erase report is presented to the user with the result of the erase process (success/non-success).

System Requirements

To use Ontrack Eraser, the following hardware and software is needed:

Ontrack Eraser (Windows)

- Windows® 2003, Windows® XP Professional, Windows Server® 2008 Standard, Windows Server 2008 Data Center, Windows Server 2008 Enterprise, Windows Server 2008 R2, Windows Vista® Business, Windows Vista Ultimate, Windows Vista Enterprise, Windows® 7 Professional, Windows 7 Enterprise, Windows 7 32 and 64-bit platforms for each of the listed operating systems
- IBM®-compatible PC with an Intel® Pentium® or greater processor
- VGA with 800 x 600 or higher screen resolution
- 128 MB of RAM
- 20 MB of free hard disk space

Ontrack Eraser (Linux)

- IBM-compatible PC with an Intel Pentium or greater processor or AMD compatible
- VGA 800 x 600 or greater graphics capability (vesa compatibility)
- 128 MB of RAM

Ontrack Eraser Network Server (OENS)

- Windows® 2003, Windows® XP Professional, Windows Server® 2008 Standard, Windows Server 2008 Data Center, Windows Server 2008 Enterprise, Windows Server 2008 R2, Windows Vista® Business, Windows Vista Ultimate, Windows Vista Enterprise, Windows® 7 Professional, Windows 7 Enterprise, Windows 7 32 and 64-bit platforms for each of the listed operating systems
- IBM-compatible PC with a Pentium or greater processor or compatible

- VGA with 800 x 600 or higher screen resolution
- 128 MB of RAM
- 200 MB of free hard disk space

Servers that use Windows

To run Ontrack Eraser software on a server that uses the Windows operating system, the following ports must be configured.

Ontrack Eraser Server Administration port: 4150

Ontrack Eraser erasure client port:

- 4151 XMLRPC (requests erasure, print report, etc.)
- 4152 UDP (erasure status)

Installing Ontrack Eraser Software

Ontrack Eraser Software consists of:

- An erase client
- A client configurator
- A server side component (known as OENS - Ontrack Eraser Network Server)

The Windows erase client can be installed on a Windows workstation (or a Windows server). The installation can be performed locally or remotely.

Both Linux and Windows erase clients are created via the client configurator. The client configurator, which is used for building erase policies and the creation of bootable erase media such as USB sticks, .iso images for CD/DVD burning, and images for server distribution, is installed on a Windows workstation (or Windows server).

The OENS components are installed on a Windows server (or Windows workstation).

Ontrack Eraser Software Editions

Ontrack Eraser offers four kinds of licenses:

- **License per Erasure:** This license is based on an erasure counter and the counter is decreased per device being erased.
- **Time Limited:** The license is time limited. It provides unlimited erasures within the time specified.
- **Time Limited license per Erasure:** This license is limited by time and an erasure counter. The license is based per erasure within a given time.
- **Unlimited:** This license offers unlimited erasures. It never expires.

License Authorization Process

When launching the erase application, the erase application does one of three things (in the following order):

- The client contacts the OENS server and asks for an authorization to perform the erase. If a connection is established, the license is then deducted from the server dongle.
- If the client cannot contact the OENS server, it defaults to contact the mobile dongle (which needs to be connected physically to the unit from where the erase process is performed). If the mobile dongle is found, the license is deducted from that dongle.
- If a license is not found in any of the above processes, an erase authorization will not be given and as a result, an erase process is not executed.

Getting Help

Kroll Ontrack provides you with the following ways to get help with Ontrack Eraser Software: Online Help and Technical Support.

Online Help

Online Help includes all of the information in the user guide and it lets you quickly access this information by using one of three tabs. The Contents tab offers a hierarchical view of the contents of the help files. The Index tab offers a keyword-based way to get to specific topics. The Search tab offers a full-text search of the help files.

To start online Help

Do one of the following:

- Click the **Help** menu and then click **Contents**.
- Click  on the toolbar.
- Press the **F1** key.

To identify a tool or control

- Position the pointer over a tool or control, and then pause. A tool tip shows the name of the item.

Technical Support

If you have questions or problems not answered in the user guide or the online Help, call our Technical Support group. When reporting an issue, please include any information that might help us diagnose the problem. The following details are often the most helpful:

- The version of Ontrack Eraser Software you are using (on the **Help** menu, click **About**).
- The versions of Windows that you are running.
- The circumstances and sequence of steps that led to the problem.

- The text of the error messages (if any appeared), and the contents of the **Details** window.
- A list of other Windows programs that you were running when the error occurred.

See "Contact Information" at the beginning of this user guide.

Conventions in this Manual

This manual uses guidelines for documenting notes and tips¹.

Notes (including cautions, important notes, tips, and warnings, as well as general notes) call the user's attention to information of special importance or information that can't otherwise be suitably presented in the main text.

Note indicates neutral or positive information that emphasizes or supplements important points of the main text. A note supplies information that may apply only in special cases—for example, memory limitations, equipment configurations, or details that apply to specific versions of a program.

Tip helps users apply the techniques and procedures described in the text to their specific needs. A tip suggests alternative methods that may not be obvious and helps users understand the benefits and capabilities of the product. A tip is not essential to the basic understanding of the text.

Important provides information essential to the completion of a task. Users can disregard information in a note and still complete a task, but they should not disregard an important note.

Caution advises users that failure to take or avoid a specified action could result in loss of data.

¹The information in this section is taken from the *Microsoft Manual of Style for Technical Publications, 3rd Edition*. Redmond, WA: Microsoft Press, 2002.

Chapter 1: Server Administrator Settings

Overview

The Server Administrator tool is used for Linux and Windows platform erasure events. Each tab and its contents are described in this section.

Each tab displays these common buttons:

Click this...	To..
About	View the About Server Administrator dialog box and copyright information.
Exit	Close the Server Administrator tool.
Help	Open the Ontrack Eraser help file.

Server Tab

The Server tab displays the connection status of the server and keeps a running Server Log of the server errors and security events on this server.

The OES (Ontrack Eraser Software) Server, Server Administrator, and Client Configurator can either be installed together on the same localhost machine or individually in a set of different locations. The Server Address field enables you to enter the location of the server if it is not installed locally.

Click the arrow in the Date/Time column to sort the server log in ascending or descending order of timestamp.

Chapter 1: Server Administrator Settings

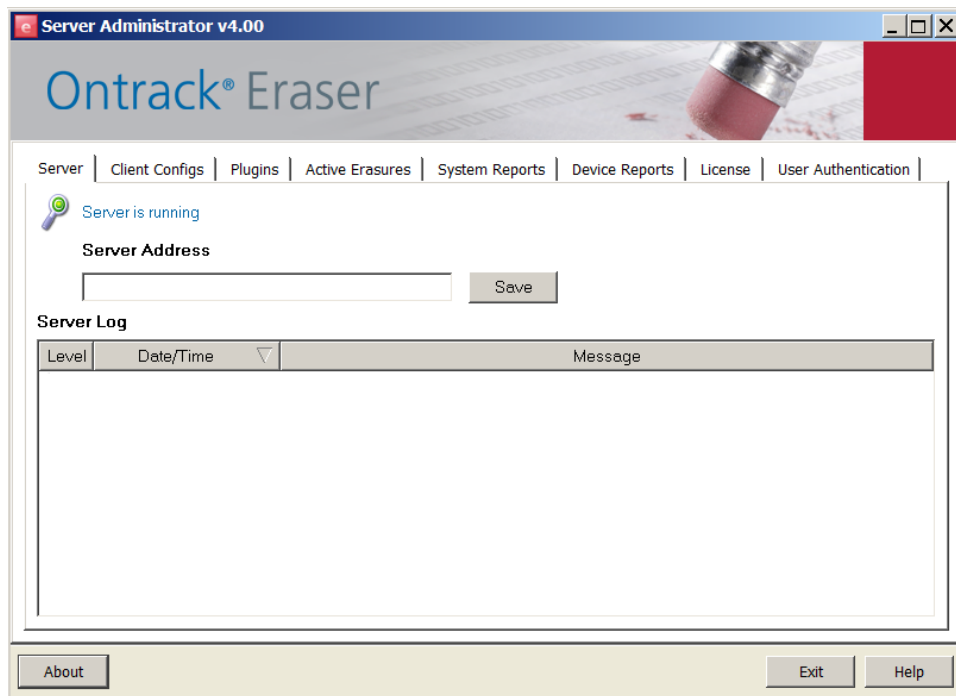


Figure 1-1: Server tab

To redirect the Server Administrator from localhost to a designated server

- In the **Server Address** field, enter the IP address of the server and click **Save**. (By default, this IP address is the local host, 127.0.0.1)

Client Configs Tab

The Client Configs page provides the option to load a previously created Client Config File. A client configuration file is a file that saves the settings you set in the Client Configurator tool.

Click the arrow in the Client Description column to sort the client configuration files in alphabetical or reverse-alphabetical order.

Chapter 1: Server Administrator Settings

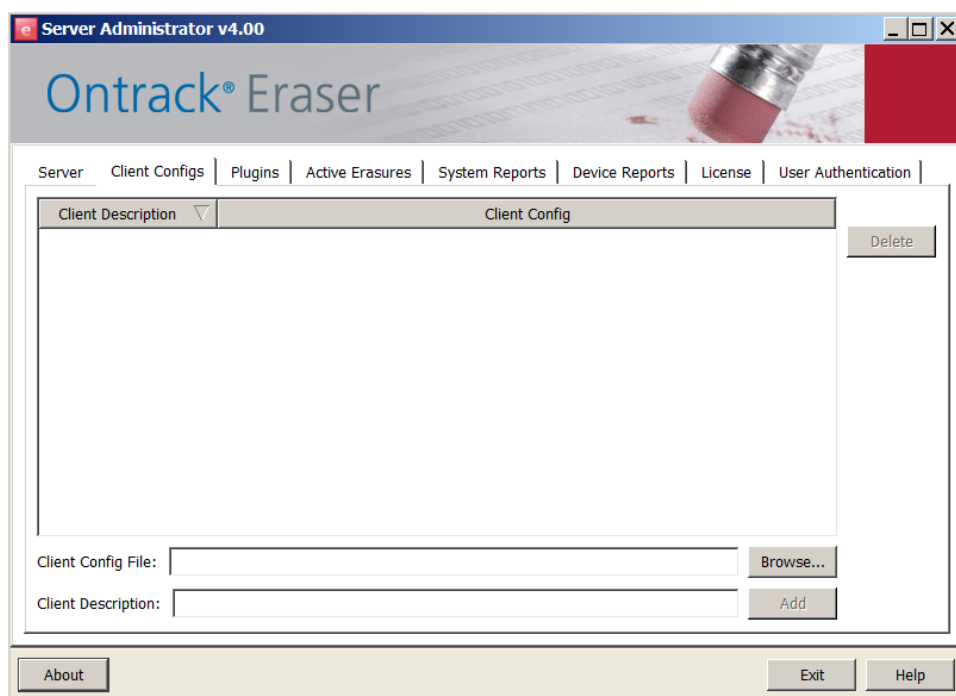


Figure 1-2: Client Configs tab

To load a Client Config File

1. Click **Browse** located to the right of the **Client Config File** field.
2. In the Open File dialog box, locate the configuration file on your local machine and select it from the **File name** drop-down.
3. Click **Open**.
4. On the Client Configs page, enter in the **Client Description** field a description the user selects when choosing to use this configuration in the OES Client and click **Add**.

To delete a Client Config File

- In the Client Configs table, select the client config file you want to delete and click **Delete**.

Plugins Tab

The Plugins tab allows you to select optional plugins for extra features to the software. These optional plugins are:

- Forward erase reports to a Microsoft SQL Server
- Save reports in PDF or plain text formats
- Send Erasure Report in an email stating that an erasure event has occurred
- Save reports in XML format

Chapter 1: Server Administrator Settings

For each plugin, you can choose to publish a system report (select Publish System Report), device report (select Publish Device Report), or both (select Publish System Report and Publish Device Report).

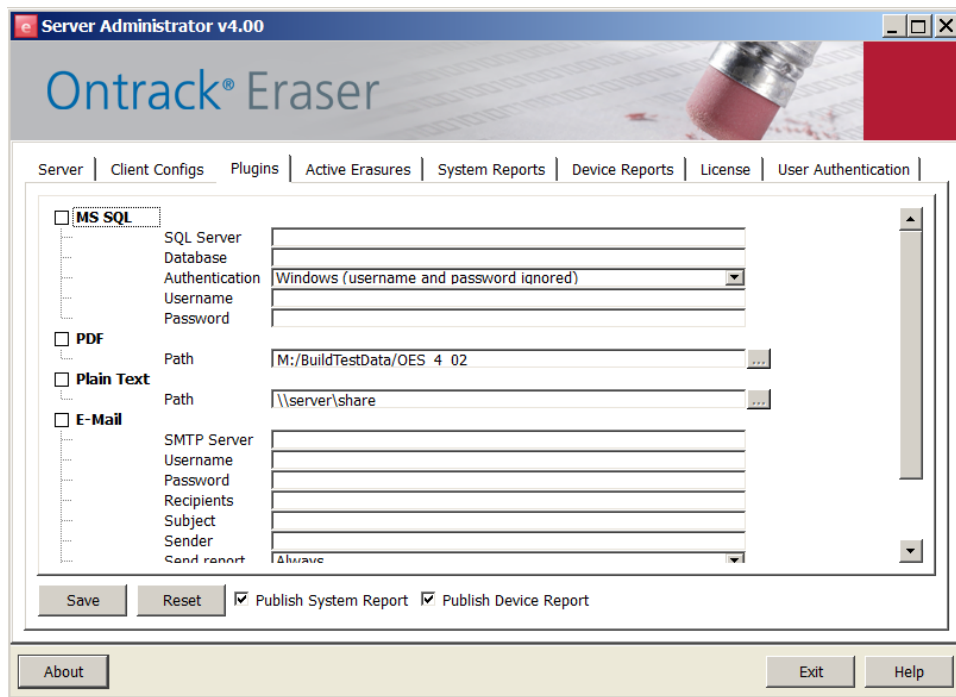


Figure 1-3: Plugins tab

Forward to Microsoft SQL Server

Select the MS SQL check box to forward the erase report to a Microsoft SQL Server once the report is written to the OES report database. The SQL Server field contains the IP address or DNS name of the Microsoft SQL Server. In the Database field, enter the database name (if you use the build database tables script which comes with OES, the default name is "OntrackEraser"). The database must be created before using this plug-in.

The Authentication field shows what authentication method is going to be used against the Microsoft SQL Server when the database tables and stored procedures are automatically created. You can choose between Windows or SQL authentication. You should take note of the following when selecting your authentication method:

Windows authentication and SQL authentication work in different ways.

- With **SQL authentication**, the application sends the login credentials to the SQL Server as part of the connection string.
- With **Windows authentication**, the operating system sends the login credentials when the application sends the connection string. The credentials are those which were used to start OES (the credentials used to start the OES service - by default this is the "Local System" account and does not have any rights to login to a remote Microsoft SQL Server).

Chapter 1: Server Administrator Settings

If SQL authentication is used, enter the Username and Password to connect to the Microsoft SQL Server. If you use Windows authentication, leave these fields blank.

Creating the Database

The first time a report is uploaded, the database tables and stored procedures are automatically created if the login credentials have the appropriate permissions.

Use the following steps to manually create the database:

- Start SQL Manager or SQL Server Management Studio.
- Connect to the server, and open the SQL_Build_Tables.sql script included on the Ontrack Eraser CD.
- Execute it.

PDF Format

Select PDF to save the erasure report in PDF format. Use the Path field to enter the location of the saved PDF erasure report.

To store the PDF report locally

- Click the ellipses (...) button and use the Browse For Folder dialog box to specify the location.

Note: The browse capability is only available when the OES server and Server Administrator are installed on the same system.

To store the PDF report on a remote location

- In the Path field, enter a valid server share with the minimum format of \\server\share (additional optional folders can follow).

Note: This format is required when the OES Server and Server Administrator are installed on separate systems. In this case, the remote location must be a shared directory located where the OES Server is installed.

Plain Text Format

Select Plain Text to save the erasure report in text (.txt) format. Use the Path field to enter the location of the saved .txt erasure report.

To store the text report locally

- Click the ellipses (...) button and use the Browse For Folder dialog box to specify the location.

Note: The browse capability is only available when the OES server and Server Administrator are installed on the same system

Chapter 1: Server Administrator Settings

To store the text report on a remote location

- In the Path field, enter a valid server share with the minimum format of \\server\share (additional optional folders can follow).

Note: This format is required when the OES Server and Server Administrator are installed on separate systems. In this case, the remote location must be a shared directory located where the OES server is installed.

Email Notification

This Plugins tab provides the option to have the erasure report sent as an email notification either when the erasure event has successfully completed or if an error has occurred during the erasure. The Send Report options are On Error, On Success, or Always.

The screenshot shows the 'Email Notification' configuration window. On the left, there are three checkboxes: 'Plain Text' (checked), 'E-Mail' (checked), and 'XML' (checked). The 'E-Mail' section is expanded, showing various fields: 'Path' (empty), 'Username' (admin@oes.com), 'Sender' (OES Notification), 'Recipients' (admin@oes.com), 'Subject' (OES Notification), 'SMTP Server' (oes.com), 'Send report' (a dropdown menu), 'Password' (empty), and 'Send as' (empty). The 'Send report' dropdown menu is open, showing four options: 'Always', 'On Error', 'On Success', and 'Always'. The 'Always' option is selected. The 'Path' field for the XML section is also empty.

Figure 1-4: Send Report options

The erasure report can be sent as the Message Body of the email or as an Attachment.

The Password is the same as the password set up for your SMTP email settings. It is only required if a password was set up for SMTP email.

XML Format

Select XML to save the erasure report in XML format. Use the Path field to enter the location of the saved XML erasure report.

To store the XML report locally

- Click the ellipses (...) button and use the Browse For Folder dialog box to specify the location.

Note: The browse capability is only available when the OES server and Server Administrator are installed on the same system

Chapter 1: Server Administrator Settings

To store the XML report on a remote location

- Enter a valid server share with the minimum format of \\server\share (additional optional folders can follow).

Note: This format is required when the OES server and Server Administrator are installed on separate systems. In this case, the remote location must be a shared directory located where the OES server is installed.

Active Erasures Tab

The Active Erasures tab displays the status of the erasures currently taking place.

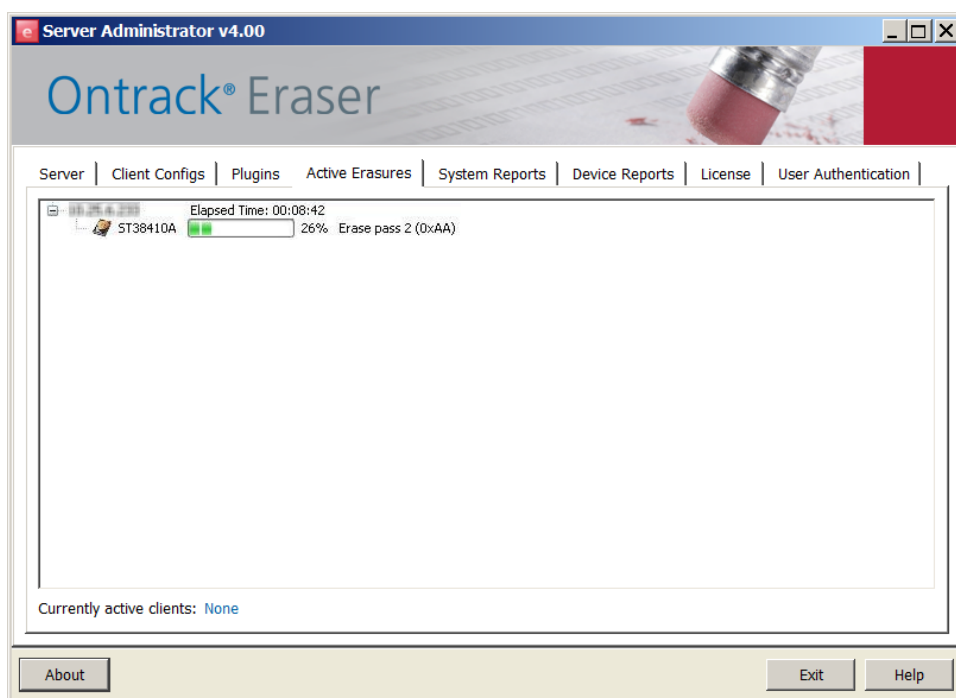


Figure 1-5: Active Erasures tab

System Reports and Device Reports Tabs

The System Reports and Device Reports tabs display the Erasure Reports from erasure events that have occurred on a given server license. The reports can be filtered by date to show only the reports that were generated between two dates you select.

Note: The completion date and time for an erasure is based on the local system time of the system where Ontrack Eraser was run, not the date and time on the server or the attached license dongle.

Service Reports Tab

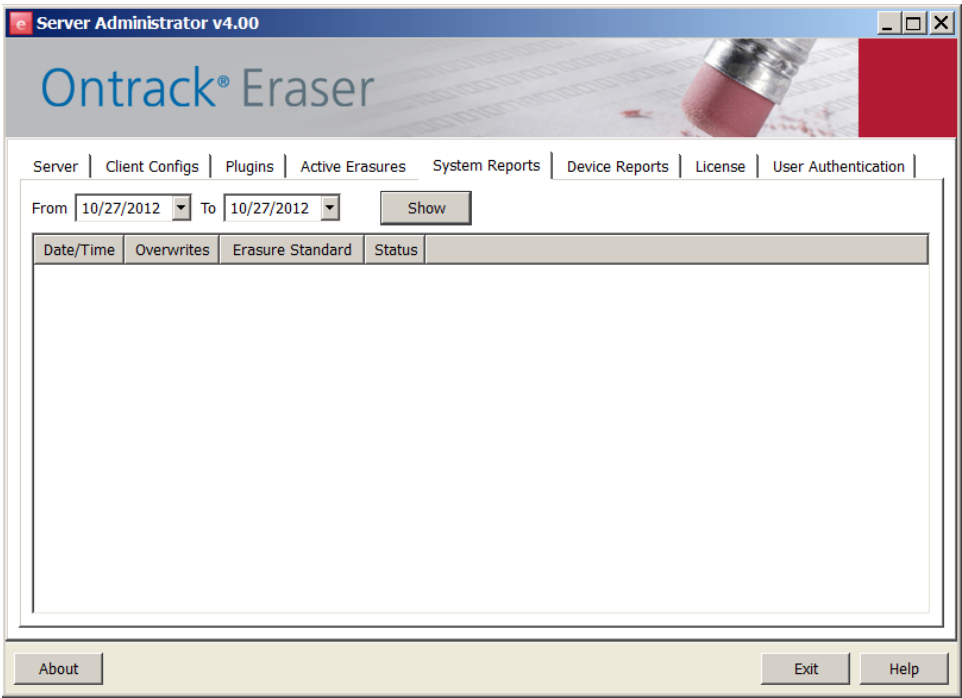


Figure 1-6: System Reports tab

Device Reports Tab

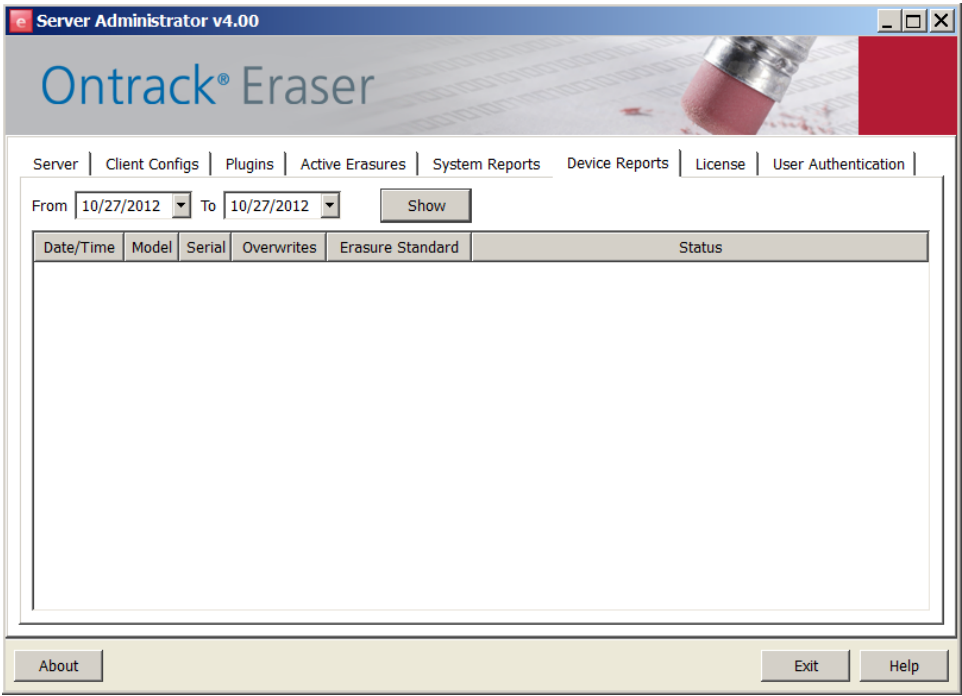


Figure 1-7: Device Reports tab

Chapter 1: Server Administrator Settings

To search for a specific report and view, save, or print its contents

1. Do one of the following:
 - To search for a system report, click the **System Reports** tab.
 - To search for a device report, click the **Device Reports** tab.
2. In the **From** drop-down list, select the first date when the erasure may have occurred.
3. In the **To** drop-down list, select the last date when the erasure may have occurred.
4. Click **Show** to review in the reports table the erasures that occurred within your date range.
5. Double-click the report you want to view, save, or print.
6. In the View Report or View Device Report dialog box, do one of the following:
 - To print the report, click **Print** and use the Print dialog box to select print details.
 - To save the report, click **Save** and use the Save report dialog box to save the report as a PDF file.

License Tab

The License tab displays the model and status of your chosen license. It provides the opportunity to refill expired licenses and deny any unwanted requests for erasure. The Mobile Dongle section allows you to load reports and transfer more licenses onto the dongle.

For more detailed information about License and Mobile Dongles, see "[Ontrack Eraser Software Editions](#)" on page 2.

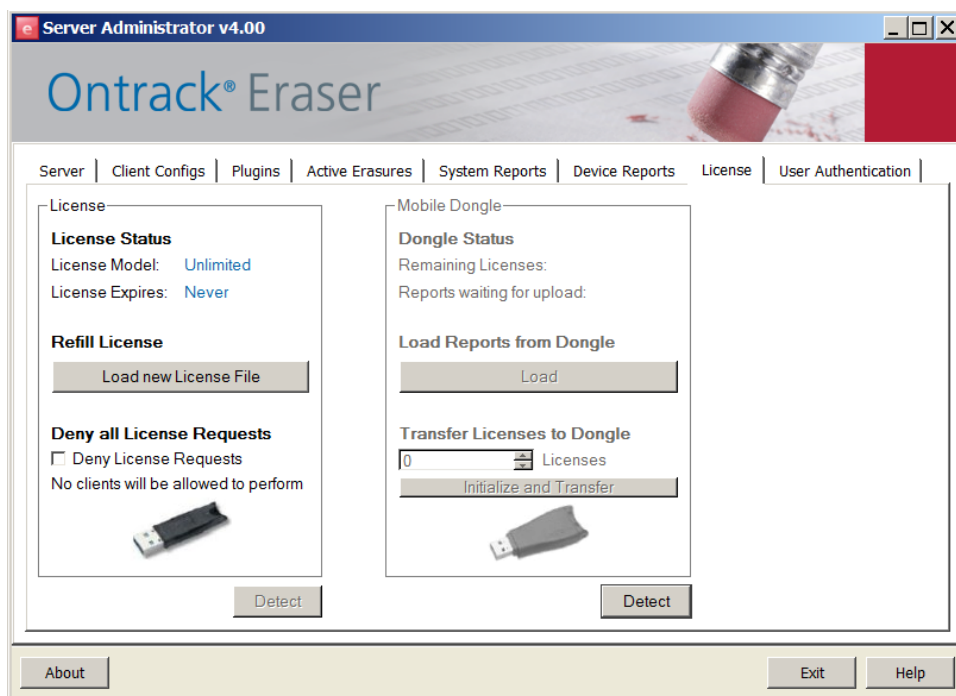


Figure 1-8: License tab

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License Dongle

License Status: The License Status section displays the type of license model you selected. Depending on the license model type previously selected, the status of that model is displayed.

Refill License: If the License expires, the Load new License File button allows you to refill the license.

Deny all License Requests: By selecting the Deny License Requests box, a client is denied the opportunity to perform an erasure.

Mobile Dongle

This dongle can contain up to 100 erasures. Before the dongle can be used, it must be initialized and the licenses transferred. This can be done on the License tab in the Server Administrator tool. After the dongle is initialized, the number of licenses is transferred from the license dongle to the mobile dongle. Licenses cannot be transferred back to the license dongle.

License Status: The License Status section displays any remaining licenses on this mobile dongle.

Load Reports from Dongle: Clicking the Load button loads the erasure report from the mobile dongle to the server where the reports are stored.

Transfer Licenses to Mobile Dongle: This section provides the option to transfer up to 100 licenses to the mobile dongle.

To transfer licenses to mobile dongle

1. Ensure that the mobile dongle is inserted into the USB port.
2. Using the arrow button, select the number of licenses to be transferred.
3. Click **Initialize and Transfer**. The licenses are transferred to the mobile dongle.

Bootable Mobile Dongle

The mobile dongle can be used as a bootable mobile dongle that places a bootable Ontrack Eraser image onto the dongle using the Client Configurator tool.

User Authentication Tab

The User Authentication tab displays all current OES Client users. Use this tab to:

- Create a new user
- Delete a user
- Reset the password of a user
- Create a user history

The user history is a CSV report that lists erasures conducted by selected users and includes the following information:

Chapter 1: Server Administrator Settings

- Erasure date
- Authenticated user
- Model
- Serial number
- Erasure algorithm
- Erasure status

Click the arrow in the Username column to sort the list of users in ascending or descending order.

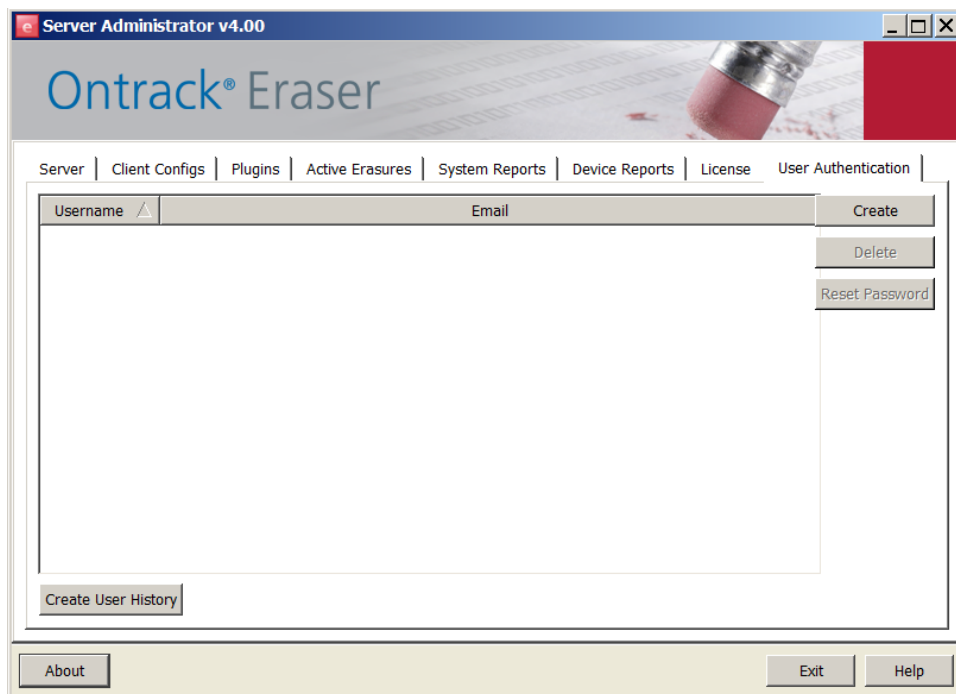


Figure 1-9: User Authentication tab

To create a new user

1. Click **Create**.
2. In the Add new user dialog box, enter the following:

In this field...	Do this...
Username	Enter the name of the new user.
Password	Enter the password of the new user. Note: Passwords must be 8-25 characters in length, contain at least one lower and upper case letter, and contain at least one number or special character.

Chapter 1: Server Administrator Settings

In this field...	Do this...
Confirm Password	Re-enter the password of the new user.
Email	Enter the email address for the new user.

3. Press **Enter**.

The new user appears in the User Authentication table.

To reset the password for a user

1. In the User Authentication table, select the user with the password you want to reset.
2. Click **Reset Password**.
3. In the Reset user password dialog box, enter and re-enter to confirm the new password.

To delete a user

1. In the User Authentication table, select the user you want to delete.
2. Click **Delete**.
3. When asked if you are sure you want to delete the selected user, click **Yes**.

To create a user history report

1. On the User Authentication page, click **Create User History**.
2. In the Show User History dialog box, select the following:

In this field...	Do this...
Username	Select the user with the history of erasures you want to view. Note: Either select a specific user or select All to view the user history of all users.
From Date	Select the date you want the user history to begin.
To Date	Select the date you want the user history to end.

3. Click **Ok**.
4. In the Save File dialog box, enter the File name and location where you want to save the user history and click **Save**.

The user history report is saved as a CSV file.

Chapter 2: Client Configurator

Overview

The Ontrack Eraser Client Configurator tool allows you to set up general settings prior to using the Ontrack Eraser Software including selecting or deselecting default settings. You are also able to select which windows in the Ontrack Eraser wizard you want to appear as you use the software.

Setting Client Configurations

Each step in the Client Configurator wizard is explained in more detail later in this section. Each wizard page step provides a link to that section. For complete details on the Ontrack Eraser Software tool, see "[Ontrack Eraser Software Client](#)" on page 29.

General Setup Page

1. Open **OE Client Configurator**.
2. On the General Setup page, enter the IP Address or computer name in **Server Address** field.
3. Do the following:
 - Select **Load Config from server** to load one of the client configurations that were saved in the Client Configs tab of the Server Administrator.
 - Select **Require user authentication** to limit erasures to authorized users.
 - Select **Collect hardware configuration** to collect detailed information on the hardware configuration of the client system used to erase the device.

Welcome Page

1. Click the Welcome Page screen.
2. Keep the default of **Show Welcome Page** to display in the wizard, or clear it to bypass.

License Page

1. Click the License Page screen.
2. Keep the default of **Show the License Agreement page** to display in the wizard, or clear it to bypass.

Select Device Page

1. Click the Select Device Page screen.
2. Keep the default of **Show the Select Device Page** to display in the wizard, or clear it to bypass.

Chapter 2: Client Configurator

Important: If you deselect this option, all devices detected by Ontrack Eraser will be erased.

3. Optional: Select **Select all detected devices** to erase all detected devices.
4. Optional: Select **Unlock devices (HPA, DCO)** to unlock and erase any locked devices.

Erase Options Page

1. Click the Erase Options Page screen.
2. Keep the default of **Show the Erase Options Page** to display in the wizard, or clear it to bypass.

Important: If you deselect this option, the default erasure selection will be used during erasure.

3. Select an overwrite standard: **Predefined** or **Custom**.
 - See ["Predefined Overwrite Standards" on page 22](#).
 - See ["Custom Overwrite Settings" on page 23](#).
4. Keep the default of **Verify Erasure** to validate every sector of the drive was written properly.
5. Select **Global Erasure Failure Override** to allow a client user to ignore any remaining errors on any remaining devices and continue with the erasure of those drives.

Reference Field Page

1. Click the Reference Field Page screen.
2. Keep the default of **Show the Reference Fields page** to display in the wizard, or clear it to bypass. This page determines what fields appear in the erasure report.
3. To add a new field to the erasure report, enter the **Name** and **Default Value** (if desired) below the Reference Field table.
4. Select the **Required** box, if needed, and then click **Add Field**.
5. To delete a field, highlight the field in the table and click **Delete Field**.

Confirm Page

1. Click the Confirm Page screen.
2. Keep the default of **Show Confirm Selection Page** to display in the wizard, or clear it to bypass.

Important: If you deselect this option, the erasure will start without asking for confirmation.

3. There are no options to select on the **Progress Page**.

Report Page

1. Click the Report Page screen.
2. Keep the default of **Show the Report page** to display in the wizard, or clear it to bypass.

Chapter 2: Client Configurator

3. If you clear this option, the application can be set to shut down automatically.
4. To set the application to shut down automatically, clear the **Show the Report page** option and click the up arrow button on the screen to determine the delay time in seconds before it shuts down automatically.
5. Keep the default setting of **Allow user to save report locally** if you want to save the erasure report on your local hard drive.
6. Click **Save** to save all the settings.
7. Click **Load** to load these configuration settings.

General Setup Page

The General Setup page is used to set the initial connection settings prior to the erasure.

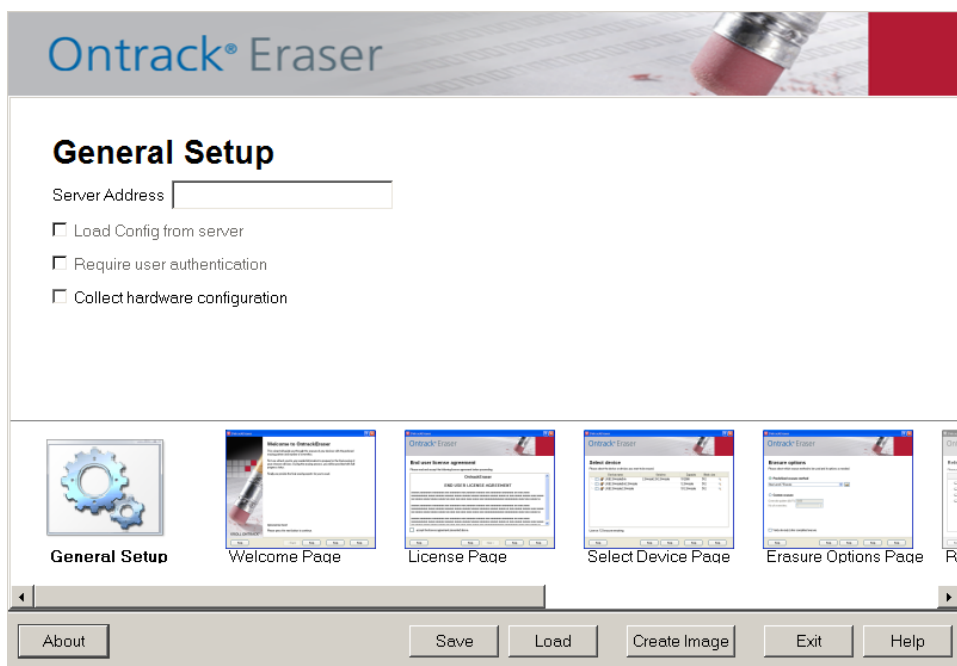


Figure 2-1: General Setup

Server Address

An IP address or computer name can be entered into the Server IP Address field.

Note: When specifying a computer name be sure to specify the fully qualified name and not just the server name.

Load Config from Server

Selecting this option allows you to load a previously saved configuration file from the server to be used for a future erasure.

Require User Authentication

Select this option to require the user to log in when the client starts. The user must be listed in the User Authentication tab of the Server Administrator.

Chapter 2: Client Configurator

Collect Hardware Configuration

Selecting this option collects the hardware configuration automatically from the client system.

Welcome Page

The Show Welcome Page option can be cleared if this page is not required in the Ontrack Eraser wizard.

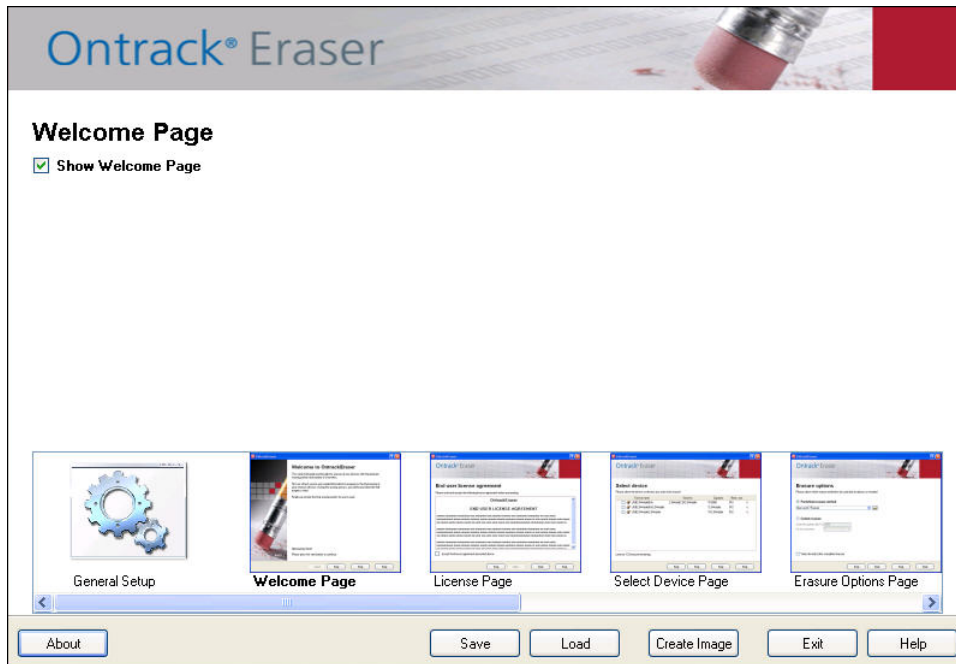


Figure 2-2: Welcome Page

License Page

The Show the License Agreement page option can be cleared if this page is not required in the Ontrack Eraser wizard.

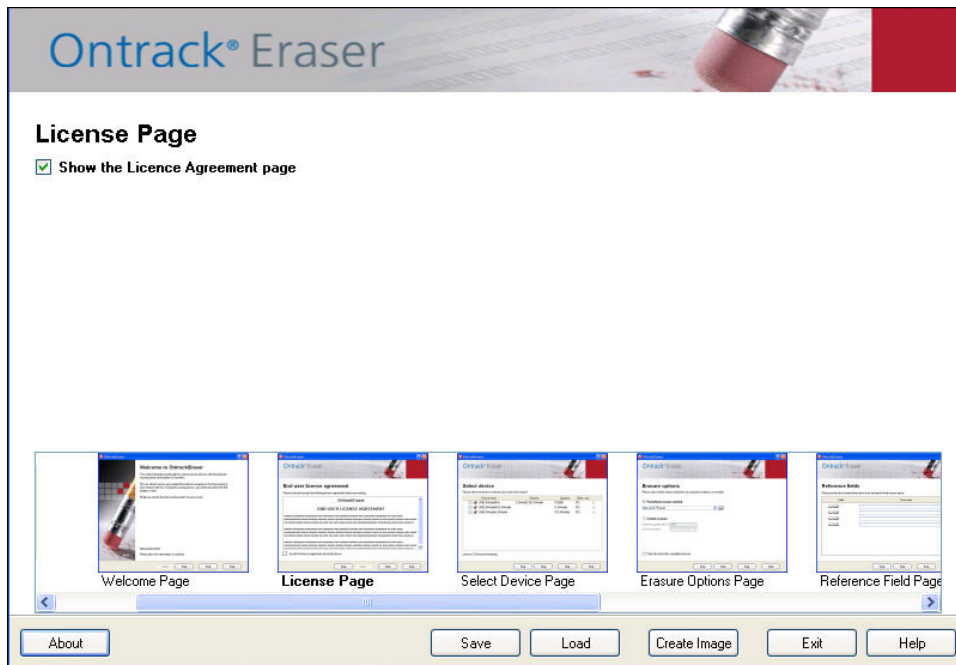


Figure 2-3: License Page

Select Device Page

The Show the Select Device Page option can be cleared if this page is not required in the Ontrack Eraser wizard.

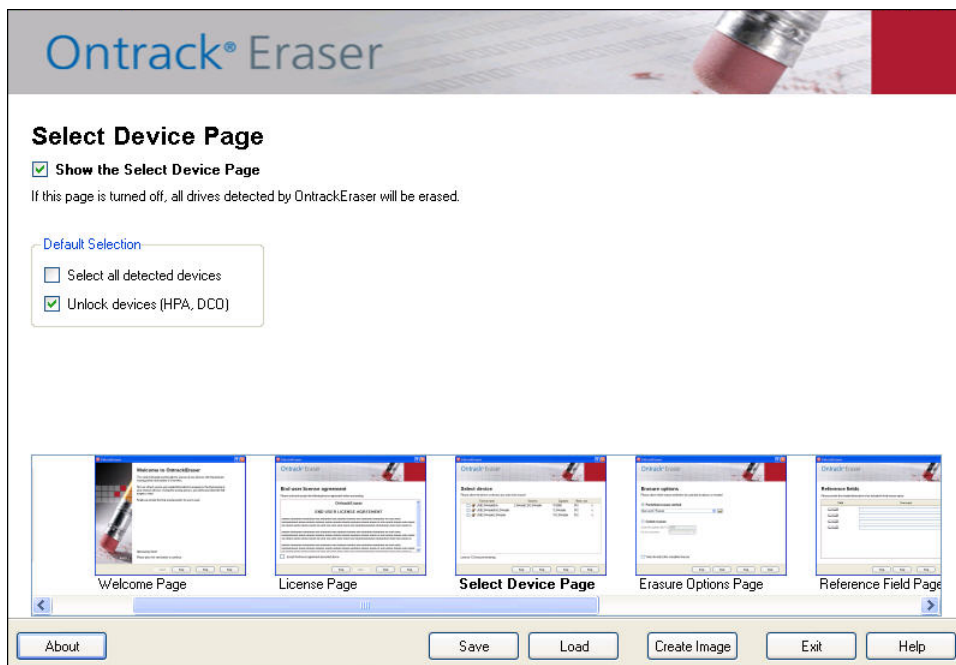


Figure 2-4: Select Device Page with default settings

Important: If this page option is turned off, all drives detected by Ontrack Eraser will be erased.

Default Selection

The Select all drives detected option is cleared as a default.

Unlock devices (HPA, DCO) is selected by default. When Unlock Devices (HPA, DCO) is enabled and the media is not freeze locked, the reduced available storage is erased together with the non-reduced area. This information is written to the erase report.

When Unlock Devices (HPA, DCO) is enabled and the media is freeze locked, the locked area is *not* erased. The Ontrack Eraser Client notifies you about this and are prompted to accept erasing only the non-locked area. This information is written to the erase report.

Erase Options Page

The Erase Options Page option can be cleared if this page is not required in the Ontrack Eraser wizard. If the page option is turned off, the default selection is used during erasure.

You can choose between Predefined and Custom overwrite standards.

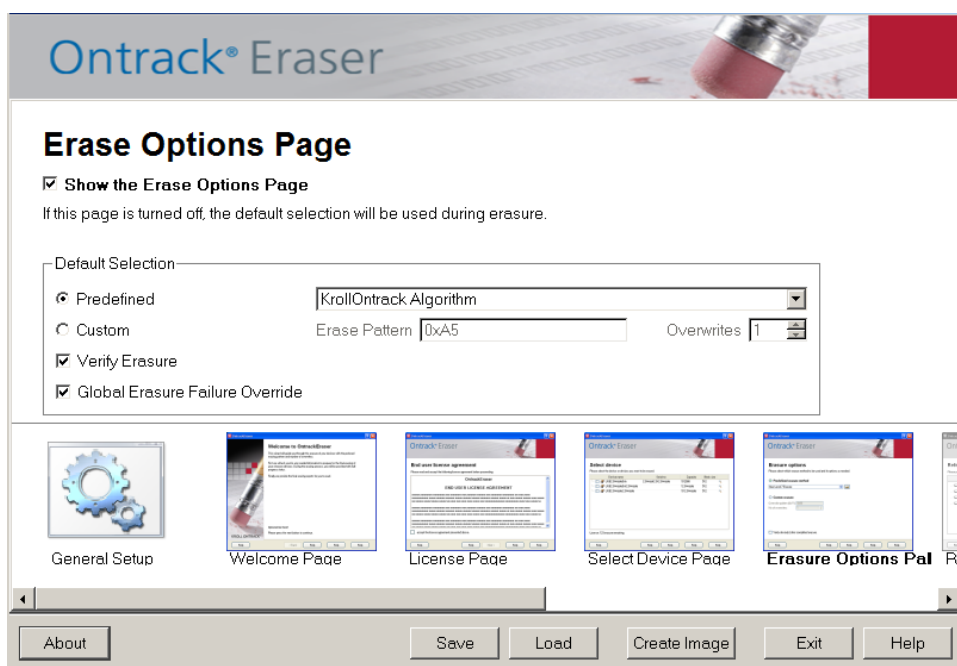


Figure 2-5: Erase Options Page

Predefined Overwrite Standards

This section gives a brief explanation of each overwrite standard.

KrollOntrack Algorithm

This overwrite standard overwrites all sectors once with the Ibas Block Pattern (traceable pattern) and runs a quick verification of three regions (start, middle, and end). The erasure aborts on verify failure.

Chapter 2: Client Configurator

HMG Infosec Standard No. 5, Higher Overwriting Standard (CESG)

This overwrite standard erases devices using CESG Infosec Standard 5 Enhanced algorithm which includes three overwrites and the logging of bad blocks.

The CESG erase standard allows up to 50 bad blocks on a media. If bad blocks are detected during the erase process, the physical addresses of those blocks are written to the erase report. If more than 50 bad blocks are detected, the erase process is considered incomplete.

HMG Infosec Standard No. 5, Lower Overwriting Standard (CESG)

This overwrite standard erases devices using CESG Infosec Standard 5 Enhanced algorithm which includes one overwrite and the logging of bad blocks.

The CESG erase standard allows up to 50 bad blocks on a media. If bad blocks are detected during the erase process, the physical addresses of those blocks are written to the erase report. If more than 50 bad blocks are detected, the erase process is considered incomplete.

Peter Gutmann

In this overwrite standard, the write head passes over each sector 35 times.

US DoD 5220.22-M

In this overwrite standard, the write head passes over each sector three times. The first pass is with zeros (0x00), the second pass is with 0xFF, and the third pass is with random characters. The final pass is to verify random characters by reading.

BSI S 2.167 Secure deletion of data media

Physical erasure sufficient for medium-level protection can be achieved by overwriting the entire data medium or at least the used sectors with a certain pattern. Uniform patterns such as "0000" should not be used for overwriting, but rather patterns such as "C1" (hexadecimal, corresponds to the bit sequence 11000001). The second pass should be a complementary pattern (for example: 3E, corresponding to the bit sequence 00111110) so that if at all possible, each bit has been changed once. The overwrite procedure should be repeated at least twice, or preferably three times, as this provides a better protective effect.

German VSITR

In this overwrite standard, the write head passes over each sector seven times.

Custom Overwrite Settings

These options allow you to set the erase pattern and the number of times the overwrite procedure is performed on a piece of media.

Erase Pattern

Uniform patterns such as "0000" should not be used for overwriting, but rather patterns such as "C1" (hexadecimal, corresponds to the bit sequence 11000001). The second pass should be a complementary pattern (for example: 3E, corresponding to the bit sequence 00111110) so that if at all possible, each bit has been changed once.

Overwrites

The number of times the overwrite procedure is performed on a piece of media.

Verify Erasure Option

This option is selected by default. Selecting this option allows you to see the erasing status in the Progress page Task column.

Global Erasure Failure Override

Select Global Erasure Failure Override to allow a client user to ignore any remaining errors on any remaining devices and continue with the erasure of those drives. Clearing this requires the user to either select Continue or Abort for each device that encounters an error.

A note is made in the log files if this function is utilized.

Reference Field Page

The Reference Field Page allows you to set which fields you need in the System reports and whether you want them to be required.

If you want the Reference Fields page to appear in the Ontrack Erasure wizard, ensure the Show the Reference Fields page option selected. Clear the box if this page of the wizard is not needed in your erasure process.

For more information about reporting, see ["Reporting" on page 42](#).

To add a field to the Reference Field table

1. Enter a Name and Default Value for the new field (if desired) in the text boxes below the Reference Field Page table.

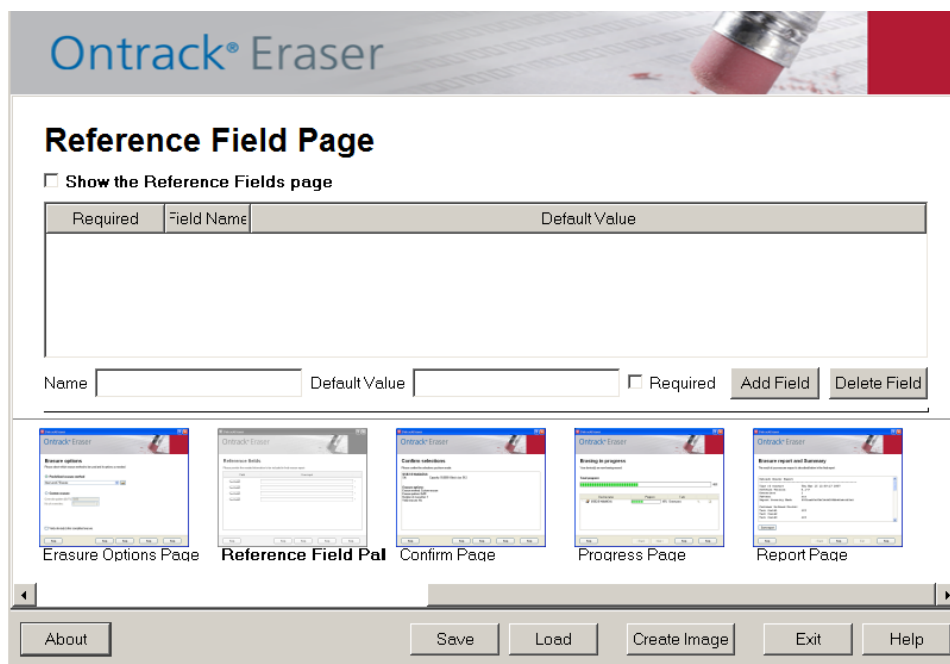


Figure 2-6: Reference Field Page

2. If this field must be included in the System report, select the **Required** check box.

Chapter 2: Client Configurator

3. Click **Add Field**. The new field is now added to the table and appears in the final System reports.

To delete a field in the Reference Field table

1. Highlight the field to be deleted in the Reference Field table.
2. Click **Delete Field**. The field is deleted from the table and does not appear in the final System reports.

Confirm Selections Page

The Confirm Selections Page of the wizard displays the options you have selected for the erasure. You have the option to not display this page in the wizard during your erasure process by deselecting Show Confirm Selection Page. However, as it states in the Client Configurator page, if this page is turned off, the erasure will start without asking for confirmation.

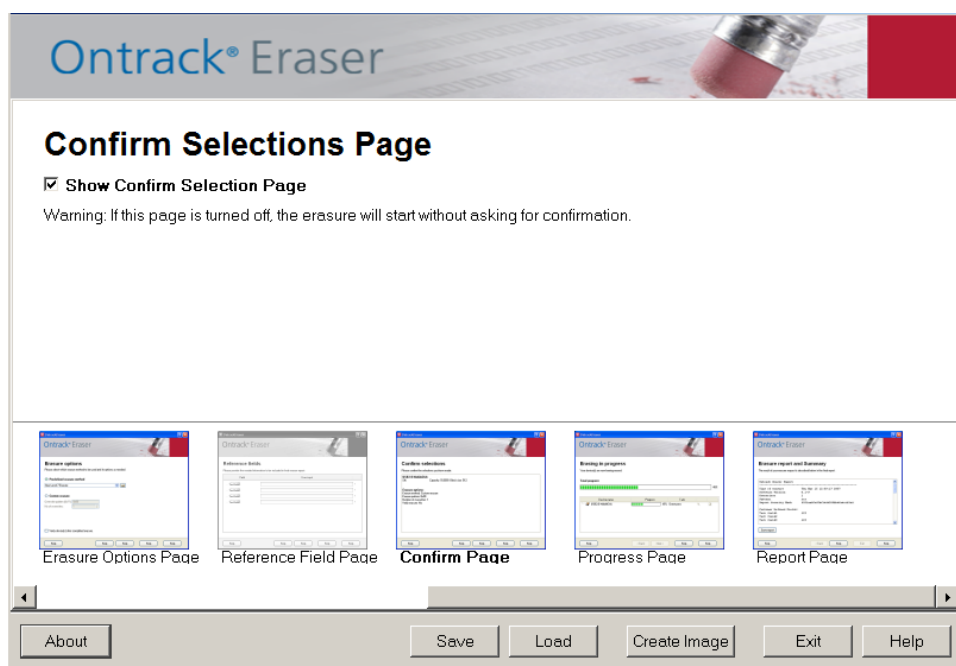


Figure 2-7: Confirm Selections Page

Progress Page

The Progress Page is always displayed in the wizard so there are no display options on this page. There are no other settings on this page.

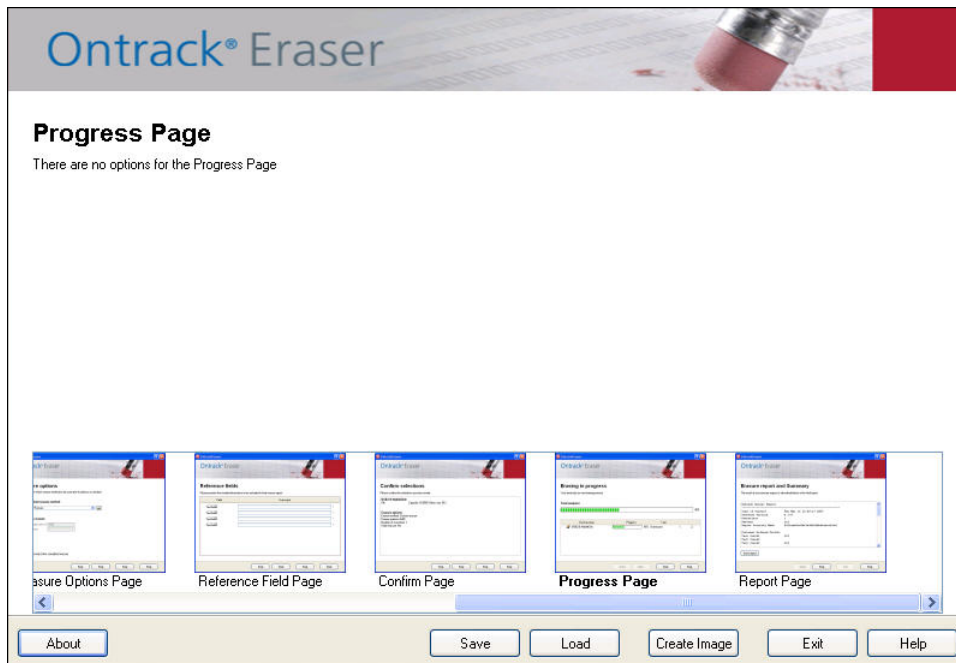


Figure 2-8: Progress Page

Report Page

The Report Page displays the erasure report based on the fields selected for this report. You have the option to not display this page in the wizard by deselecting the Show the Report page option. Deselecting this option allows you to set the application to shut down automatically.

For more information on reporting, see ["Reporting" on page 42](#).

To set delay for automatic application shutdown

1. Deselect the **Show the Report page** option. This activates the grayed out setting box.
2. Using the arrow buttons, select the delay time to automatic shutdown in seconds.

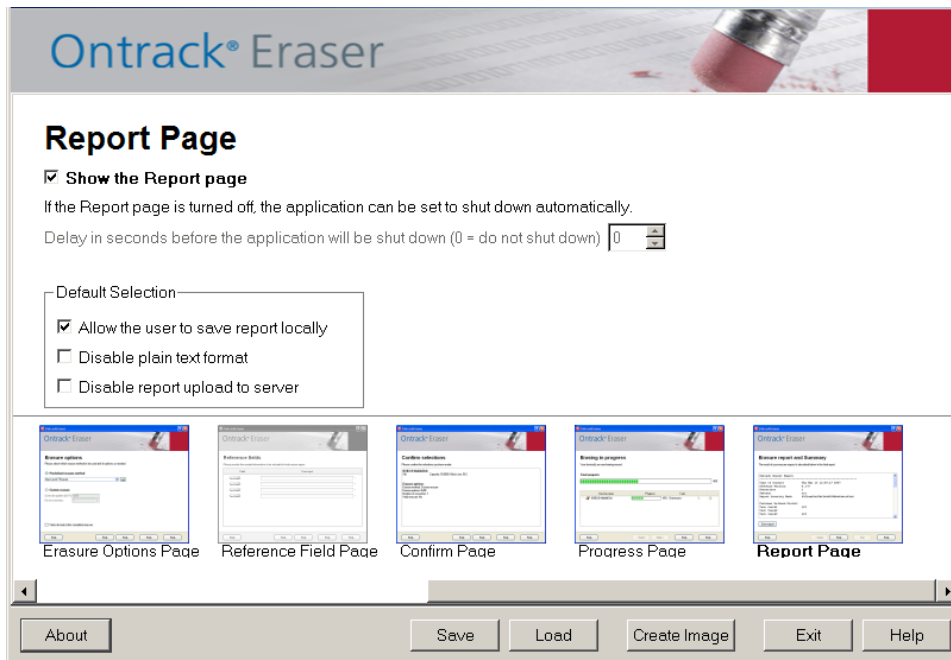


Figure 2-9: Report Page with shutdown delay activated

Allow the user to save report locally

To have the option of saving the report locally, keep the default setting selected.

Disable plain text format

Select this option to disable saving reports in plain text format. Saving in a PDF or OER format is still available.

Disable report upload to server

As part of an erase process, an erase report is generated. This erase report is automatically uploaded to the erase report database (if there was a server address set on the General Setup page). By selecting Disable report upload to server, the uploading of the report is cancelled. If the mobile dongle was used to boot the client, a local report is then automatically generated and saved to the dongle; otherwise, no report is automatically saved.

Create Image

A Create Image button is provided to create a bootable erase media such as USB sticks.

ISO and PXE images can also be created for CD/DVD burning and for server distribution.

To create an ISO image

1. Click **Create Image** in the **OE Client Configurator** tool.
2. In the **Select Destination** screen, select the **ISO Image**.
3. Click **Browse** to select the location of the .iso file.

Chapter 2: Client Configurator

4. Click **Create**.
5. Burn the .iso image onto a CD or DVD.

To create a PXE image

1. Click **Create Image** in the **OE Client Configurator** tool.
2. In the **Select Destination** screen, select **PXE Image**.
3. Click **Browse** to select the location of the PXE file.
4. Click **Create**. This process may take several minutes.

To create a bootable media

1. Click **Create Image** in the **OE Client Configurator** tool.
2. In the **Select Destination** screen, select **Bootable USB Media**.

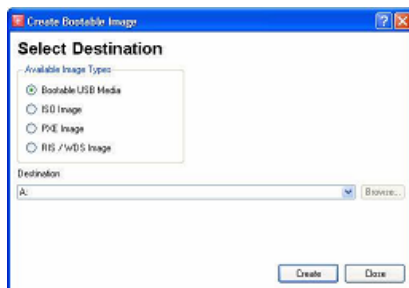


Figure 2-10: Select the destination of the created image

3. Select the USB location using the **Destination** drop-down or by clicking **Browse** to navigate to the destination.
4. Click **Create**. A bootable erase media is created on your USB device.

Chapter 3: Ontrack Eraser Software Client

Overview

Application for Windows

The main purpose of the application for Windows is to erase removable devices (USB, and FireWire). The erase process is only performed at a high level. The application for Windows cannot perform a 100% secure erasure of your hard drive. An erase report is presented displaying the results of the erase process (success and non-success). The report can be printed or saved to an internal/external media.

Application for Linux

The main purpose of the application for Linux is to securely erase hard drives and other storage units. The application for Linux is the primary mechanism for erasing entire hard drives, as opposed to logical volumes and partitions, etc. Using the Linux client is the only way to erase the primary boot media. An erase report is presented displaying the results of the erase process (success and non-success).

Ontrack Eraser Client

The Ontrack Eraser Client tool uses a wizard interface to step through each phase of setting up an erasure, setting up the report, confirming those settings, viewing the erasure progress, and viewing the erasure report. The Client Configurator tool allows you to customize this wizard.

Welcome to Ontrack Eraser

The first screen displayed in the wizard is the Welcome screen. Click Next to continue.

End User License Agreement

If you have reviewed and agree to the terms of the license agreement, accept the license agreement and click Next to continue through the wizard.

Select Device

This window displays the device number, device name, serial number, capacity, and block size of all devices connected to the computer. One or more devices can be selected for erasure in this window. The number of drives selected appears below the Select device table.

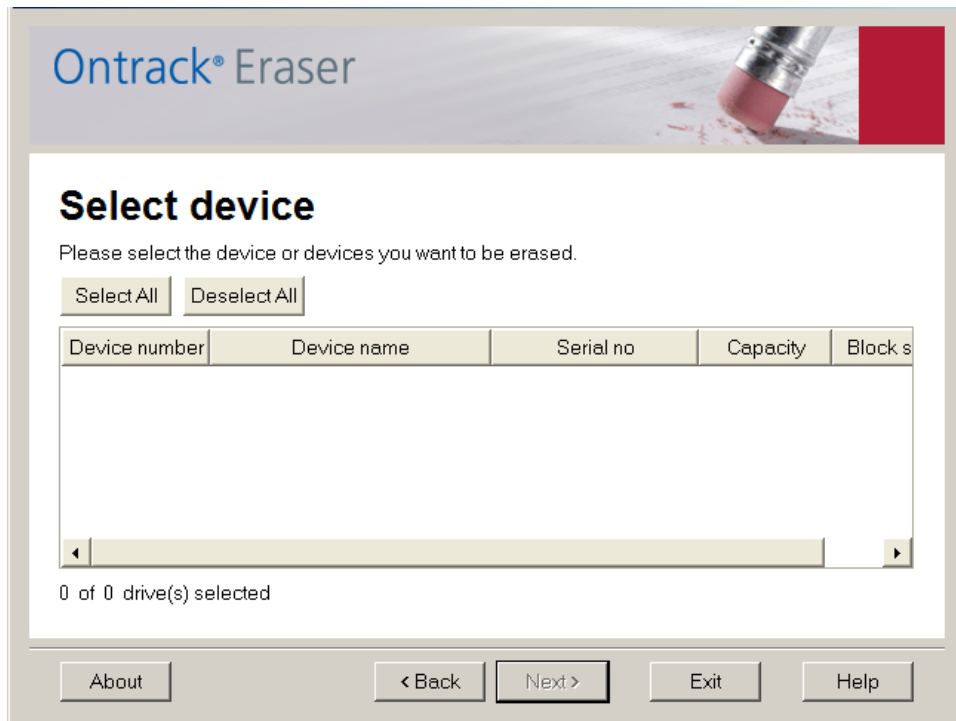


Figure 3-1: Select device

Erasure Options

There are two options to determine the erasure method used and its options as needed:

- Predefined erasure method
- Custom erasure

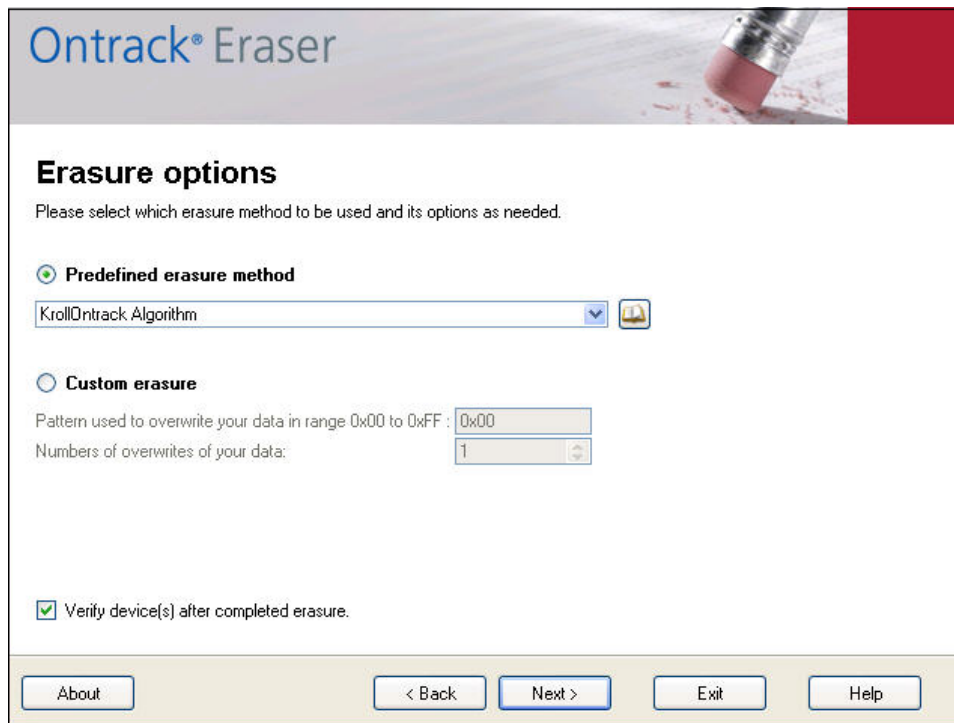


Figure 3-2: Erasure options

The Predefined erasure method option provides a drop-down to select the method of erasure. A Help button is located next to the drop-down which provides details about each method.

By selecting Custom erasure, the following settings become activated:

- Pattern used to overwrite your data in range 0x01 to 0xFF
- Number of overwrites of your data
- Verify device(s) after completed erasure

Predefined Erasure Method

The Predefined erasure methods are overwrite standards that perform on various levels and use different algorithms. These overwrite standards are:

KrollOntrack Algorithm

This overwrite standard overwrites all sectors once with the Ibas Block Pattern (traceable pattern) and runs a quick verification of three regions (start, middle, and end). The erasure aborts on verify failure.

HMG Infosec Standard No. 5, Higher Overwriting Standard (CESG)

This overwrite standard erases devices using CESG Infosec Standard 5 Enhanced algorithm which includes three overwrites and the logging of bad blocks.

Chapter 3: Ontrack Eraser Software Client

The CESG erase standard allows up to 50 bad blocks on a media. If bad blocks are detected during the erase process, the physical addresses of those blocks are written to the erase report. If more than 50 bad blocks are detected, the erase process is considered incomplete.

HMG Infosec Standard No. 5, Lower Overwriting Standard (CESG)

This overwrite standard erases devices using CESG Infosec Standard 5 Enhanced algorithm which includes one overwrite and the logging of bad blocks.

The CESG erase standard allows up to 50 bad blocks on a media. If bad blocks are detected during the erase process, the physical addresses of those blocks are written to the erase report. If more than 50 bad blocks are detected, the erase process is considered incomplete.

Peter Gutmann

In this overwrite standard, the write head passes over each sector 35 times.

US DoD 5220.22-M

In this overwrite standard, the write head passes over each sector three times. The first pass is with zeros (0x00), the second pass is with 0xFF, and the third pass is with random characters. The final pass is to verify random characters by reading.

BSI S 2.167 Secure deletion of data media

Physical erasure sufficient for medium-level protection can be achieved by overwriting the entire data medium or at least the used sectors with a certain pattern. Uniform patterns such as "0000" should not be used for overwriting, but rather patterns such as "C1" (hexadecimal, corresponds to the bit sequence 11000001). The second pass should be a complementary pattern (for example: 3E, corresponding to the bit sequence 00111110) so that if at all possible, each bit has been changed once. The overwrite procedure should be repeated at least twice, or preferably three times, as this provides a better protective effect.

German VSITR

In this overwrite standard, the write head passes over each sector seven times.

Custom Overwrite Settings

These options allow you to set the erase pattern and the number of times the overwrite procedure is performed on a piece of media.

Erase Pattern

Uniform patterns such as "0000" should not be used for overwriting, but rather patterns such as "C1" (hexadecimal, corresponds to the bit sequence 11000001). The second pass should be a complementary pattern (for example: 3E, corresponding to the bit sequence 00111110) so that if at all possible, each bit has been changed once.

Overwrites

These custom overwrite options allow you to set the Erase Pattern and the number of times the overwrite procedure is performed on a piece of media.

Confirm Selections

This window displays the selections made for this erasure:

- Device selected including the capacity and block size
- Erasure method selected
- Verify erasure: Yes or No

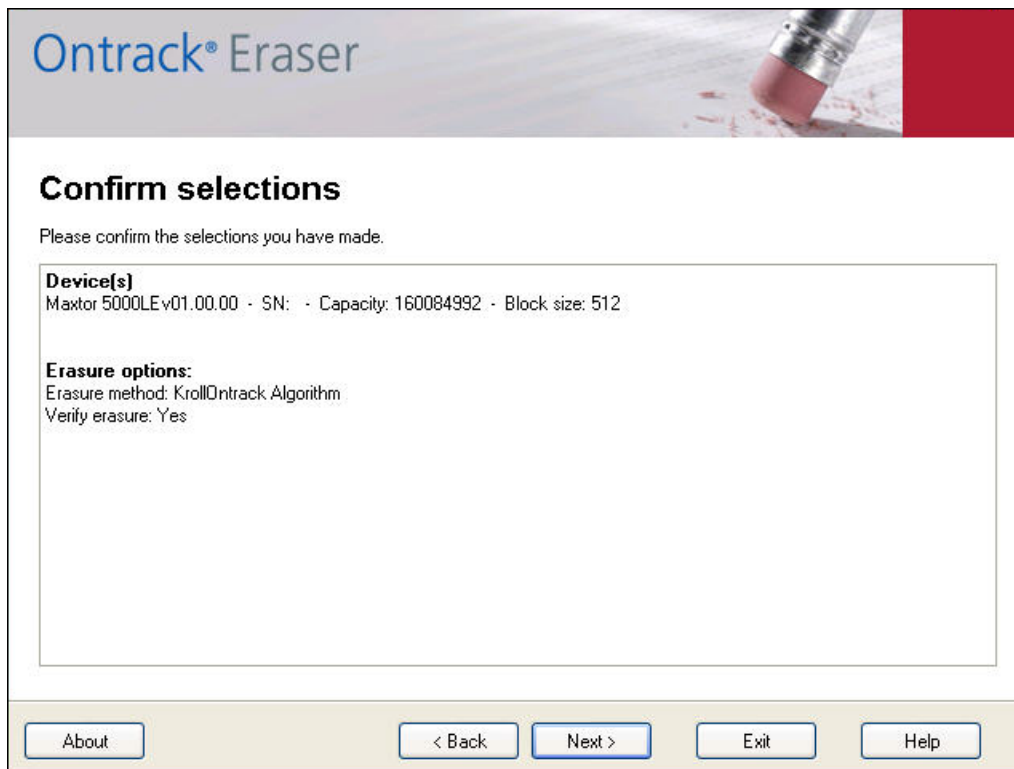


Figure 3-3: Confirm selections

Erasing in Progress

The Erasing in progress page displays the progress and elapsed time of each device being erased, as well as the total progress of all devices being erased. When the erasure is finished, the devices that were selected are itemized. Tallies are displayed of devices that were erased and erasures that failed.

Note: If a device has a serial number, it is listed as the device name. If a device does not have a serial number, the current name value is listed as the device name.

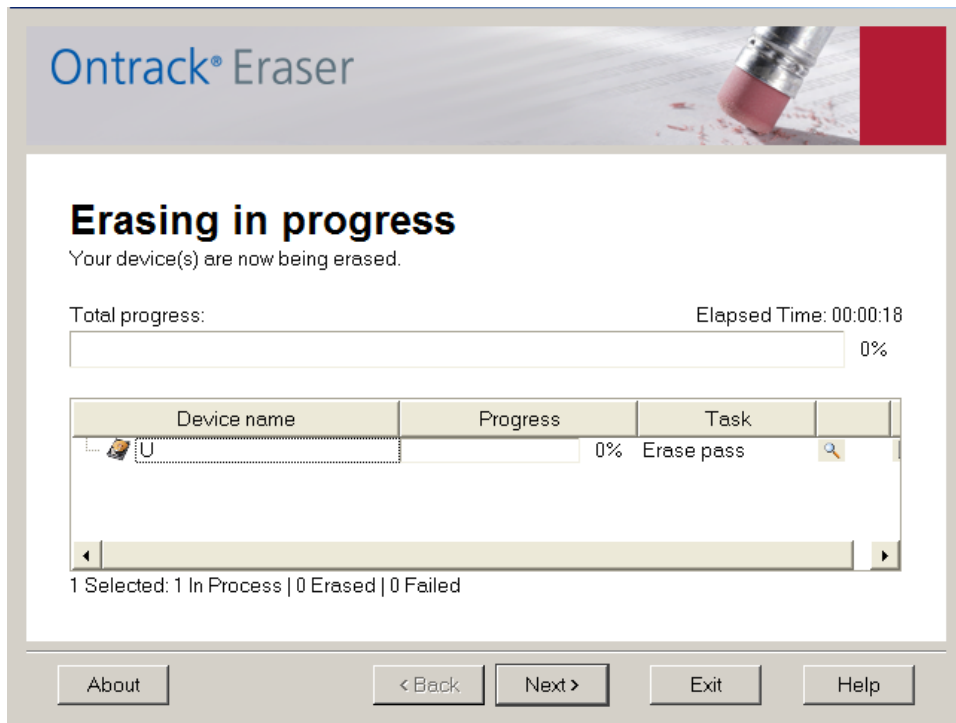


Figure 3-4: Erasing in Progress

Next to each device being erased, the Task being performed is displayed; for example, Erase pass.

Note: An algorithm maximizes the efficiency of the erasure groups when erasing a large number of drives. As a result, some drives are erasing while others are paused.

Important: Clicking Exit halts the erasure. If your license option is based on the number of erasures, you are not be refunded an erasure if you click Stop.

When the erasure process is complete and successful, the progress bars display 100% and the Task is Done. The Elapsed Time displays the amount of time it took to erase that device.

Sector Browser

By double-clicking the magnifying glass icon to the right of the Task column, you can view sectors of the device data to ensure the erasure process was complete. Using the arrow keys allows you to step through each sector of your device.

Chapter 3: Ontrack Eraser Software Client

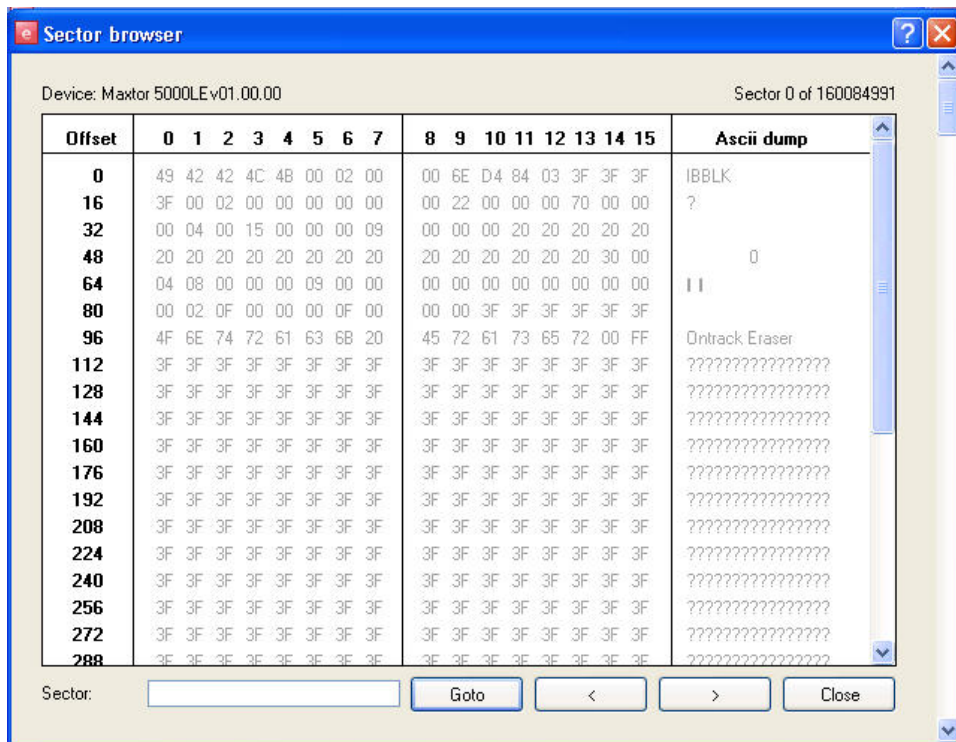


Figure 3-5: Sector browser

View Report

The Ontrack Eraser Report can be viewed by double-clicking the page icon in the last column. For more detailed information on the eraser reports and how they can be customized to display only the information you need, see ["Reporting" on page 42](#).

Erase Report via Mobile Dongle

When the erase authorization is created via the mobile dongle, an erase report is saved to the mobile dongle. This report (or collection of reports) has to be transferred to the OENS server database.

Note: Licenses can only be transferred to the mobile dongle when there are no reports present on the dongle.

Erasure Report and Summary

The Erasure report and Summary page displays the complete Ontrack Eraser Report and a summary of the activities performed during the erasure.

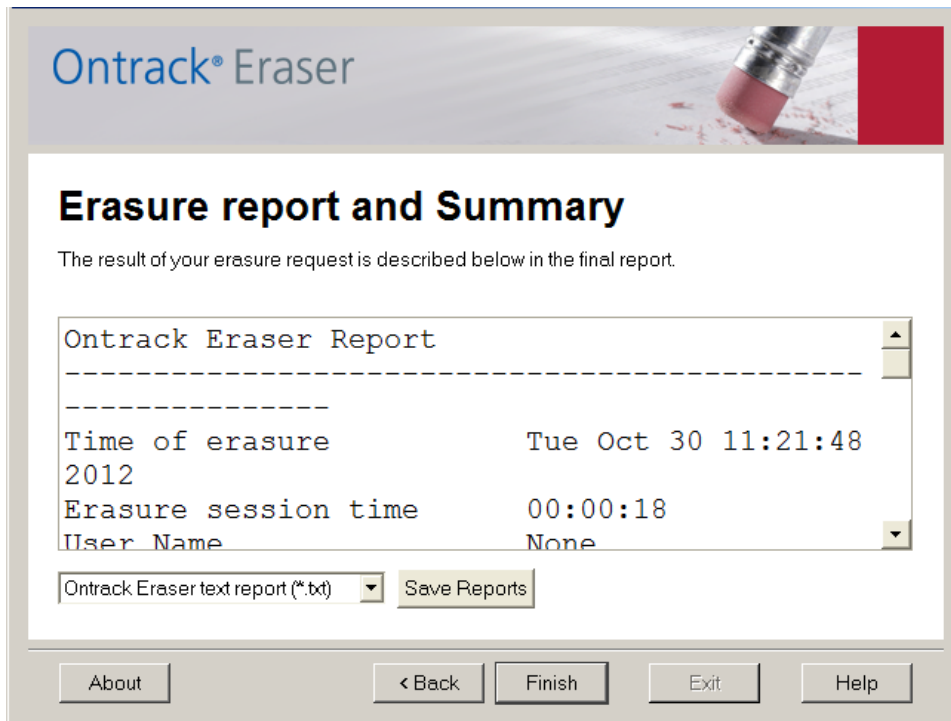


Figure 3-6: Erasure Report and Summary

Save Report

Reports can be saved to a local device in one of the following formats:

- Text (.txt)
- Portable document file (PDF)
- Ontrack Eraser special format (.oer).

Saving a report in the .txt format or PDF format creates one system report and one device report for each device erased. Saving a report in the .oer format creates a unified report; separate system and device reports are created once the report is uploaded to the OES server

To save the report

1. On the Erasure report and Summary page, use the drop-down list to select the report format (.txt, PDF, or .oer).
2. Click **Save Report**.
3. Use the Browse For Folders dialog box to save the report to a location of your choice.
4. Clicking the **Finish** button closes the application.

Note: The completion date and time for an erasure is based on the local system time of the system where Ontrack Eraser was run, not the date and time on the server or the attached license dongle.

Chapter 3: Ontrack Eraser Software Client

Erasing Data with the Linux Client

The Linux Client consists of a Linux operating system and an erase client. Both components are packed into one deliverable when you are creating an erase image with the Client Configurator. When a machine is booted from an erase image, the following process takes place:

Note: You can boot an OES image from a CD/DVD, a USB dongle, a PXE server or a RIS/WDS server.

As the Linux operating system is loaded into memory, a screen will appear indicating how long until Ontrack Eraser will load.

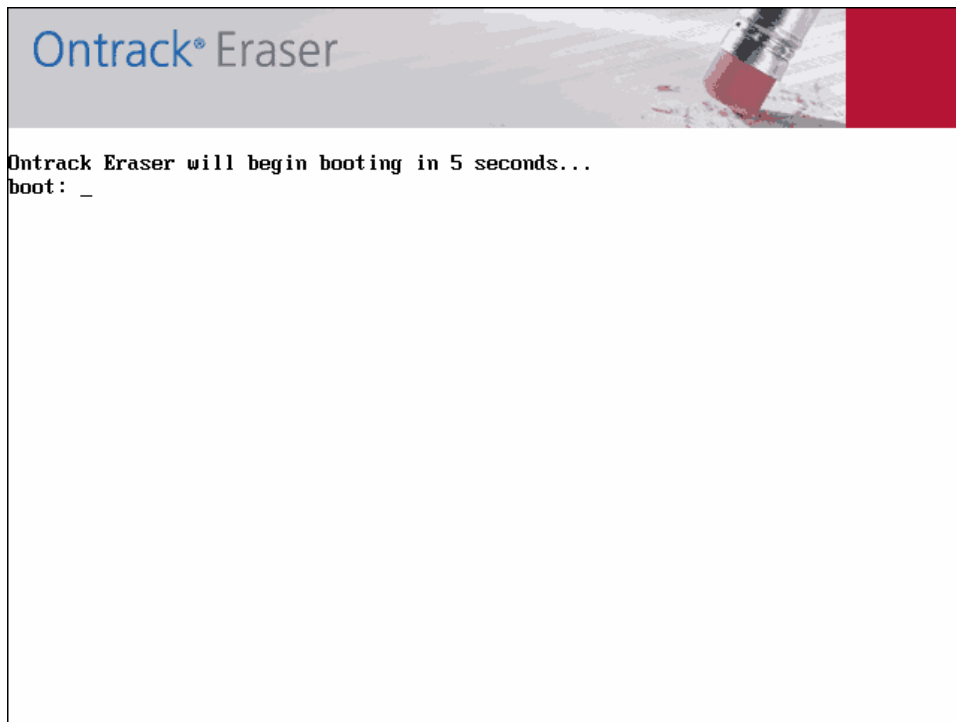


Figure 3-7: Linux operating system being loaded into memory

As the Linux operating system is starting, a screen will appear indicating the progress. All device drivers are loaded automatically behind the scenes (see **"Troubleshooting" on page 43** if a specific device driver is not loaded).



Figure 3-8: Linux operating system launching

After the Linux operating system has been started, the erase client launches. Different screens can be shown when the client starts, depending on the settings of the client. If a specific device is not loaded during the boot process of the operating system because of a missing device driver, a device driver can be manually added through the welcome screen.

Click the Load Device button in order to load the dialog box from where you can select the missing driver (the device driver has to be present on a mounted device).

Chapter 3: Ontrack Eraser Software Client

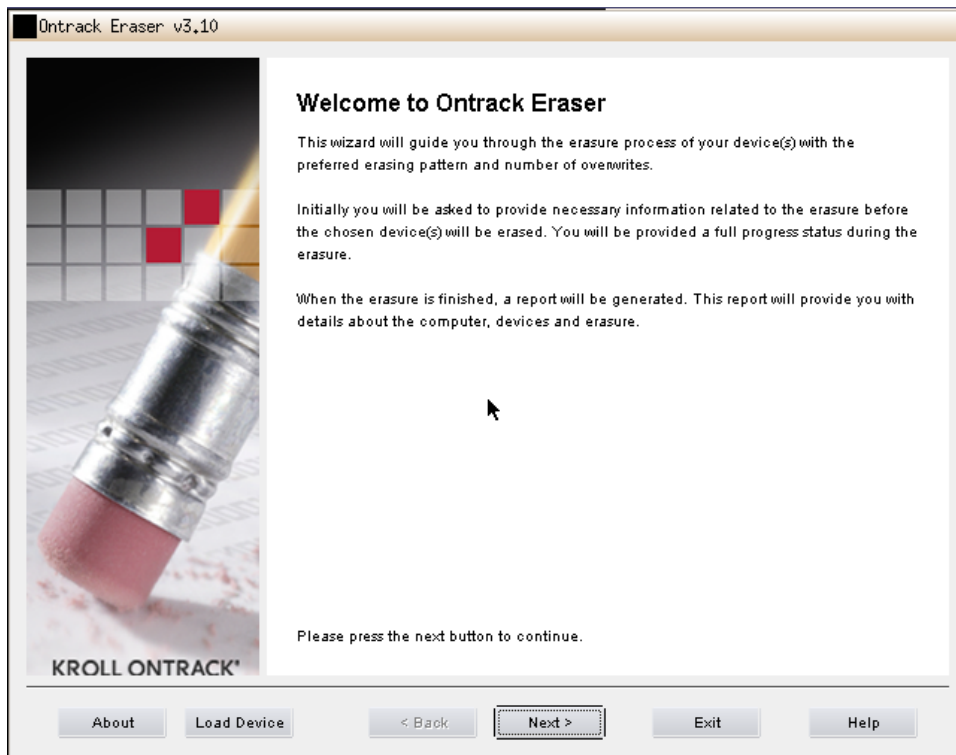


Figure 3-9: Welcome page

If the erase client fails to obtain an IP address, a dialog box automatically appears providing the user the option to manually add the IP address information.



Figure 3-10: Enter Static IP Information

Chapter 3: Ontrack Eraser Software Client

When the device has been selected and the erasing is in progress, a screen indicating the progress is displayed. There is a progress bar for the individual devices and a progress bar for the total progress.

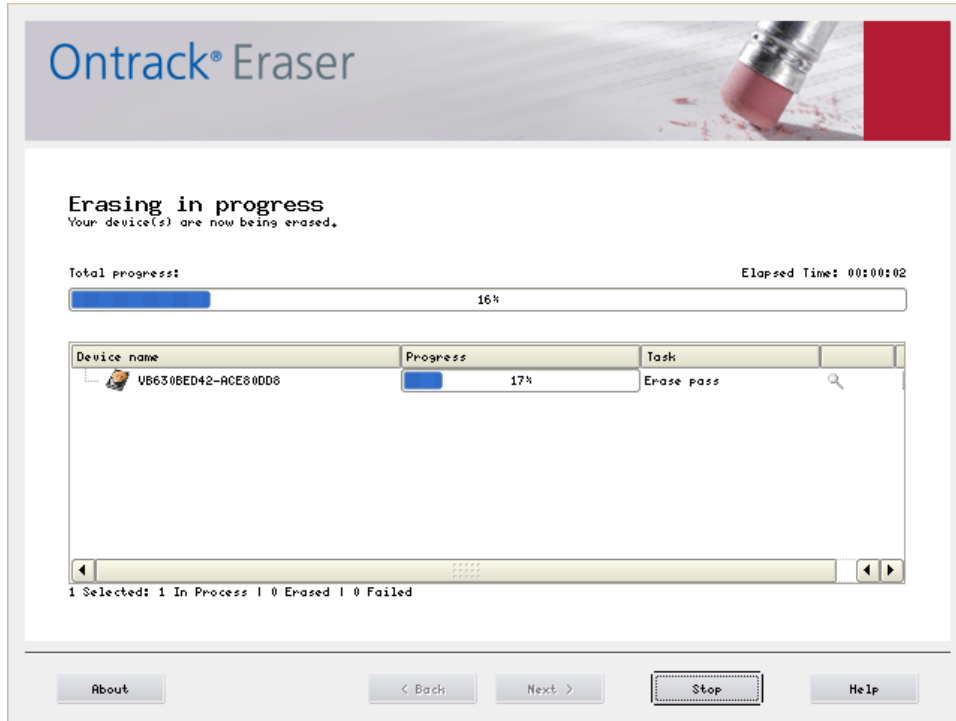


Figure 3-11: Progress bars for individual devices and total progress

When the erase process has been performed, an erase report is generated. Depending on the configuration, the Erase report and Summary may or may not be shown.

Chapter 3: Ontrack Eraser Software Client

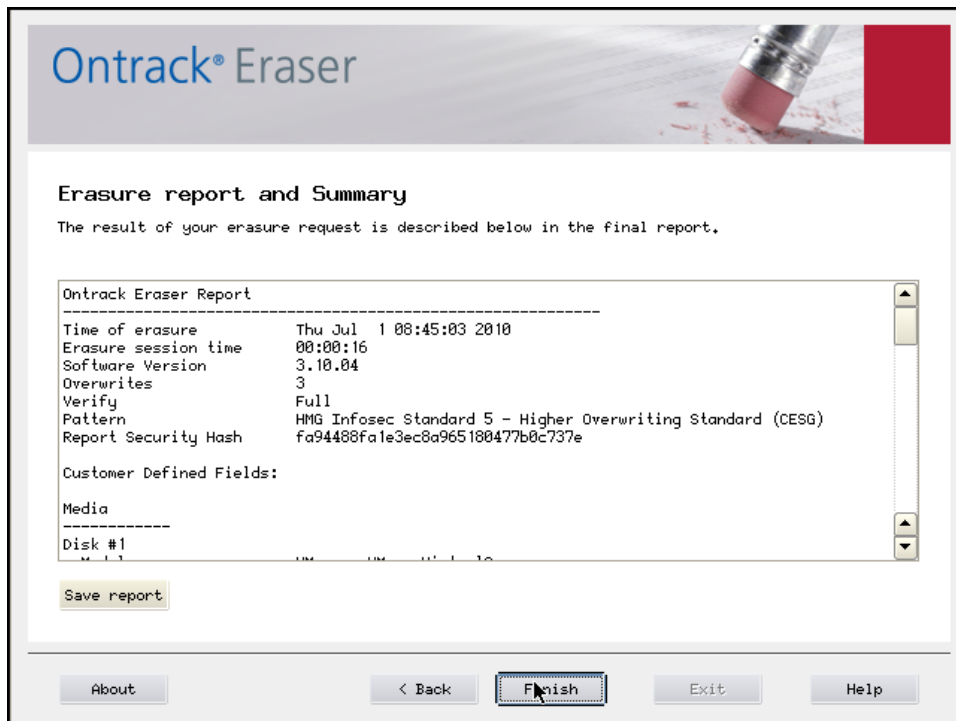


Figure 3-12: Erasure report and Summary

Note: The completion date and time for an erasure is based on the local system time of the system where Ontrack Eraser was run, not the date and time on the server or the attached license dongle.

Chapter 4: Reporting

Overview

For each erasure, Ontrack Eraser Software generates an erasure report. This report contains information about the process success/fail and forms the basis for an erasure certificate.

Custom Erasure Report

The Erasure Report contents can be customized by the user in the Client Configurator tool. For more information, see **"Reference Field Page" on page 24**.

Email Notification

The Server Administrator tool provides an option to have the erasure report emailed to any designation person(s), either upon successful completion or if an error occurs.

Chapter 5: Troubleshooting

Overview

Ontrack Eraser allows you to create an error log file which you can forward to Kroll Ontrack support if the Linux operating system or some of the device drives do not load correctly.

Troubleshooting the Linux Client

When Ontrack Eraser is booting up, the operating system is loaded in different stages. If a load stage is failing to load it is displayed on the splash screen.

Note: A failing stage does not mean that the erase process cannot be performed. A stage can fail because of a missing device driver. The device driver can be loaded manually and the erase process can proceed. If the reason for a failing load stage is not definable through any information on the screen, an error log file can be created and forwarded to Kroll Ontrack support.



Figure 5-1: "Starting network" stage failure

When an error occurs during the load stages, the splash screen mode automatically switches to verbose mode and displays what load stage failed to load correctly.

When a load stage fails, do the following:

Chapter 5: Troubleshooting

1. After exiting the client, press **Esc** or **Exit** to navigate to the **Save Error Log** file screen.
2. Attach or insert a preformatted external storage device (USB dongle, floppy, or other USB storage device) to the PC where the error occurs in order to save the error log to this device.

Important: The USB dongle or floppy must be preformatted in a FAT format.

3. Select Rescan by entering "R."

Note: USB devices may take a few seconds before the device appears in the menu and is ready for scanning. If the rescan has missed the new device you have attached, wait a few seconds and retry the scan.

4. Enter the number of the device to which you are saving.
5. After the error log has been saved, you can save it to another directory to view it or forward it to Kroll Ontrack support.
6. Remove the external storage device.

In the following example, the error log is about to be saved to a floppy disk or a USB drive.

```
Linux kernel version 2.6.33.2 started.
Initializing the system... [ OK ]
Loading device drivers... [ OK ]
Installing Hasp HL System... [ OK ]
Initializing devices... [ OK ]
Mounting file system... [ OK ]
Initializing libraries... [ OK ]
Starting network... [ Failed! ]
Analyzing hardware information... [ OK ]
Initializing Ontrack Eraser client system... [ OK ]
Starting Ontrack Eraser... [ OK ]

*** Save error log to removable media/devices ***

1) usb1 LEXAR DIGITAL_FILM

Enter '1' to save to the device,
or 'R' rescan for devices, or 'X' to exit.

Enter selection:
```

Figure 5-2: Example of an error log

Glossary

Term	Description
Erase License Counting	One "use" is defined as the overwriting of one or more addressable locations on a single drive.
Erase Report Creation	The erase report is created for each erase whether the erase was successfully completed or not. Even if the OES Client only erased one sector on the drive and was then cancelled by the user, an erase report must be created. In other words, if the OES Client modified the drive in any way, an erase report must be created.
Single Drive	A single rigid disk drive or a single removable media (floppy disk, USB memory stick, FireWire drive, etc.)

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